Annual Report of Child Deaths in Oldham, Bury and Rochdale

April 2020 – March 2021

Data Analysis & Author: **Dr Rebecca Fletcher,**
Consultant in Public Health,
Oldham Council

Contents

1. Executive Summary

This is an annual review of the Child Death Overview Panel (CDOP) data for Oldham, Bury and Rochdale (ORB), which combine to make one of the four CDOPs in Greater Manchester (GM). The CDOP reviews all child deaths under 18 years, but not including still births, late foetal loss or termination of pregnancy. The panel do not determine the cause of death but instead explores all the factors surrounding the death of the child. This learning enables required actions to be taken to protect the welfare of children and prevent future deaths.

Every year, each CDOP collates information on the cases that have been closed in the last 12 months in order to review for themes. This enables each area to identify any lessons learnt and recognise where population level interventions are required to reduce future child deaths.

This year, we are producing a shortened version of the report which is based on the National Child Mortality Database extract for Oldham, Bury and Rochdale. The significant challenges from COVID, and the implementation of the e-CDOP system locally led to a smaller than usual number of cases being reviewed. A full report will be available next year.

1.1. Key Findings in Oldham, Bury and Rochdale (ORB)

In 2020/2021 there were 47 notified cases and 29 closed cases. It is pertinent to note that this report looks in detail at the closed cases, however these deaths did not necessarily occur in the last 12 months. Only once a case is closed is there the level of detail required to develop a narrative surrounding the death and therefore draw out themes. The duration of the review process can vary meaning that not all cases are closed in the same year that they are notified.

The 47 notified cases in 2020/2021 are children that have died in the last 12 months, however at the time of writing this report these cases have not yet been reviewed. It is important to hold this in mind when interpreting the results of this report. This year closed cases numbers have been low nationally, due to the impact of COVID and across GM due to the introduction of the new e-CDOP system.

55% of children were within a hospital setting when the fatal event occurred, with home setting being the second most common location. Males were overrepresented in closed cases at 59%, this is consistent with GM and national findings year on year, the reason for this is unclear.

Children are at the highest risk of death in the first year of life, and this is identified within the ORB data, 41% of cases were in the neonatal period and 55% in the first year of life. In relation to this, perinatal and neonatal events continue to be the most common cause of death, this is consistent with GM and national findings. Across ORB, the leading cause of child death was chromosomal/genetic/congenital abnormalities equating to 31% of the closed cases. The second most common cause of death was perinatal/neonatal event which was the category of 21% deaths.

Modifiable risk factors are areas which may contribute to an increased risk of child death, and if addressed at a population level can reduce the risk of future child deaths. 48% of closed cases had modifiable risk factors identified. Modifiable factors that were identified in ORB cases included hospital and clinical factors, domestic violence, consanguinity, and parental smoking.

2. Introduction

The aim of this report is to analyse the child deaths within Oldham, Bury and Rochdale (ORB), to make observations on the causes and modifiable factors, in order to identify recurring themes. This helps guide population level interventions to reduce childhood mortality within the area. This annual report is presented to the Health and Wellbeing board to inform on the findings, the current interventions in place and future recommendations.

When a child dies a review process occurs to enable learning and to identify where changes could be made to prevent similar child deaths in the future. The Child Death Overview Panel (CDOP) will review the child deaths of all children under 18-years, but not including still births, late foetal loss or termination of pregnancy. Oldham, Bury and Rochdale combine to make one of the four CDOPS in GM.

The four CDOPs in Greater Manchester are split as follows:

- Manchester North – Oldham, Bury, Rochdale, CDOP
- Manchester South -Tameside, Trafford, Stockport CDOP
- Manchester West -Bolton, Salford, Wigan CDOP
- Manchester City -Manchester CDOP

Every year, each CDOP collates information on the child death in the last 12 months to enable thematic learning to guide decision making on population level interventions. The report is supported by a GM report which gives an overview of patterns across all four CDOPS. In view of the relatively small numbers, and subsequent difficulties with data analysis, this can be helpful when analysing themes.

This report includes information for cases closed between 1st April 2020 and 31st March 2021. A case is defined as closed at the end of the CDOP review process.

2.1. Infant Mortality in the UK and comparisons with ORB

The crude rate Infant mortality (2018-2020) across England is 3.9 per 1000 births, across the North West it is higher than nationally at 4.3 per 1000 births. Whilst Bury and Rochdale have a similar infant mortality rate to the rest of England, Oldham performs worse at 6.2 per 1000. In fact, as can be seen in Figure 1 below, Oldham has the highest infant mortality rate in the North West

Figure 1: Infant Mortality Rate, per 1000 births, by local authority, 2018-2020

Infant mortality rate 2018 - 20

Crude rate - per 1,000

Area	Recent Trend	Count	Value		95% Lower CI	95% Upper CI
England	–	7,111	3.9		3.8	4.0
North West region	–	1,028	4.3		4.1	4.6
Oldham	–	58	6.2		4.7	8.0
Manchester	–	131	6.1		5.1	7.3
Bolton	–	61	5.6		4.3	7.2
Blackpool	–	25	5.4		3.5	7.9
Sefton	–	39	5.2		3.7	7.0
Rochdale	–	42	5.0		3.6	6.7
Knowsley	–	27	4.7		3.1	6.8
Salford	–	49	4.7		3.4	6.2
Liverpool	–	76	4.6		3.6	5.7
Stockport	–	41	4.3		3.1	5.9
Tameside	–	35	4.3		3.0	6.0
Warrington	–	26	4.2		2.7	6.1
Bury	–	27	4.1		2.7	6.0
Blackburn with Darwen	–	24	4.1		2.6	6.1
Wigan	–	40	4.0		2.8	5.4
Cumbria	–	49	3.8		2.8	5.1
Lancashire	–	137	3.8		3.2	4.5
Wirral	–	33	3.5		2.4	5.0
Cheshire East	–	36	3.3		2.3	4.6
St. Helens	–	18	3.2		1.9	5.1
Halton	–	12	2.9		1.5	5.1
Cheshire West and Chester	–	29	2.9		2.0	4.2
Trafford	–	13	1.7		0.9	3.0

Source: Office for National Statistics (ONS) https://fingertips.phe.org.uk/profile/child-health-profiles/data#page/3/gid/1938133228/pat/6/par/E12000002/ati/302/are/E08000004/iid/92196/age/2/sex/4/cat/-1/ctp/-1/yrr/3/cid/4/tbm/1

The child mortality rate, which is deaths of children aged 1-17 years (2018-2020), across England is 10.3 per 100,000, with the North West being higher at 11.5 per 100,000. Oldham and Rochdale both have rates higher than the England rate, and Bury's rate is similar. This can be seen in the figure below:

Figure 2: Child Mortality Rate, per 100,000 births, by local authority, 2018-2020

Child mortality rate (1-17 years) `New data` 2018 - 20   Directly standardised rate - per 100,000

Area	Recent Trend	Count	Value		95% Lower CI	95% Upper CI
England	–	3,471	10.3		9.9	10.6
North West region	–	509	11.5		10.6	12.6
Oldham	–	28	16.5		10.9	23.8
Rochdale	–	24	16.1		10.3	23.9
Blackburn with Darwen	–	16	14.5		8.3	23.6
St. Helens	–	15	14.1		7.9	23.3
Liverpool	–	37	14.0		9.8	19.3
Tameside	–	19	13.8		8.3	21.6
Manchester	–	46	13.5		9.9	18.1
Lancashire	–	94	13.3		10.8	16.3
Bury	–	15	12.4		6.9	20.5
Wirral	–	23	12.0		7.6	17.9
Knowsley	–	11	11.6		5.8	20.9
Wigan	–	22	11.2		7.0	17.0
Trafford	–	17	10.8		6.3	17.3
Warrington	–	13	10.2		5.4	17.5
Cumbria	–	26	9.8		6.4	14.4
Bolton	–	19	9.6		5.8	15.0
Stockport	–	16	8.9		5.1	14.5
Salford	–	14	8.7		4.7	14.7
Cheshire East	–	19	8.6		5.2	13.5
Cheshire West and Chester	–	14	7.1		3.9	12.0
Blackpool	–	4	*		-	-
Halton	–	8	*		-	-
Sefton	–	9	*		-	-

2.2. Overview of Oldham, Bury and Rochdale Population aged under 18yrs

Across ORB there are approximately 153,288 children under the age of 18, equating to 24% of the total population of the area. One thing to note is that Oldham has a slightly higher percentage of under 18 years within its population at 25%, as seen in Table 1.

Table 1: Number of children aged under 18 in Oldham, Bury and Rochdale			
Area	**Under-18 Population size**	**Total Population**	**% population under -18**
Bury	43,289	190,990	23%
Oldham	59,592	237,110	25%
Rochdale	50,407	222,412	23%
Bury, Oldham, Rochdale	153,288	650,512	24%
England	12,642,441	56,286,961	22%

Source: Mid-2019: April 2020 local authority district codes version of this datasethttps://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland

3. Reviews of child death cases 2020/2021

3.1. Notified cases 2020/2021

Between 1st April 2020 and 31st March 2021 there were 47 notified child deaths across ORB. This is lower than last year and the majority of the reduction is in notified deaths from Oldham.

Table 2: Number, percentage and rate per 10,000 of notified deaths across ORB, 2020/21				
Area	Number of Notified Deaths	Percentage of overall ORB deaths	Total population 0-17 yrs	Rate of Notified cases per 10,000 population
Bury	13	28%	43289	3.00
Oldham	14	30%	59592	2.35
Rochdale	20	43%	50,407	3.97
ORB	47	100%	153288	3.07

3.2. Closed Cases 2020/2021

In 2020/2021 there were 29 closed cases across the ORB CDOP. As seen in table 2, the closed cases in ORB account for 23% of GM closed cases. Oldham has the highest rate of closed cases, 2.35 per 10,000 of the population.

Table 3: Number and percentage of deaths (cases closed) across ORB 2020/21			
Area	Total Deaths (Closed Cases)	Percentage of overall ORB deaths (Closed cases)	Rate of Closed cases per 10,000 population
Bury	9	31%	2.08
Oldham	8	28%	1.34
Rochdale	12	41%	2.38
ORB	29	100%	1.89

Source: GM CDOP Data

It is important to note that whilst these cases were closed during this time, the deaths did not necessarily occur in the same 12-month time frame, due to the variable duration for a case to be closed. For the purpose of the CDOP annual report, the closed cases are discussed, as these offer the level of detail required to identify themes. It is important that this is kept in mind when interpreting the findings of this report.

3.3. Location of Death

The majority of deaths occurred in a hospital setting across all three localities. Deaths in hospital are more likely to do due to a perinatal or medical cause, rather than sudden unexpected death which would be more likely to occur in the home environment.

Table 4: Comparison of Location of Death 2020/21						
Area	Hospital		Home		Other	
	No	%	No	%	No	%
ORB	16	55%	10	35%	<5	

3.4. Causes/Category of Death

As part of the CDOP process each case is assigned a category of death from 10 defined options. The classification system is hierarchical therefore the category of death with the most relevance will be recorded as the primary category and cause of death, and others as secondary categories. The nationally defined categories of death as follows:

a. Deliberate inflicted injury, abuse or neglect
b. Suicide or deliberate self-harm
c. Trauma and other external factors
d. Malignancy
e. Acute medical or surgical condition
f. Chronic medical condition
g. Chromosomal genetic and congenital anomalies
h. Perinatal/neonatal event
i. Infection
j. Sudden unexpected, unexplained death

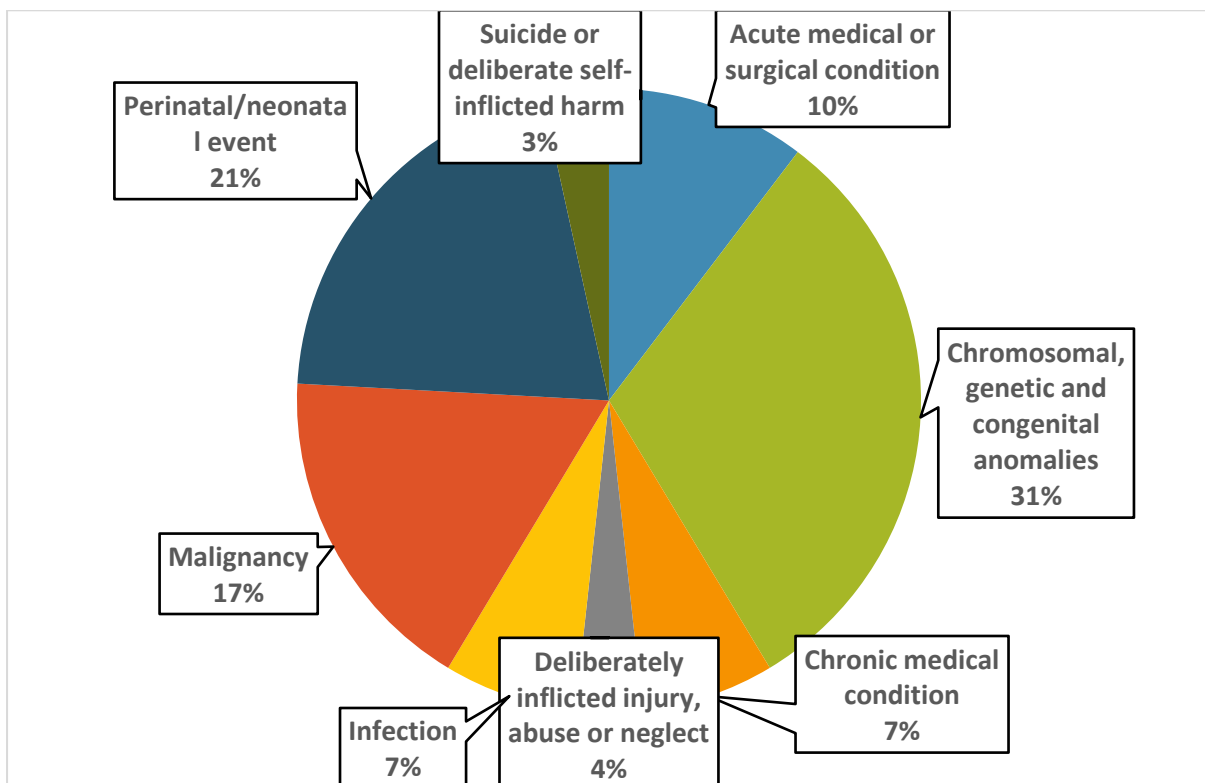**Figure 3: Category of Death - Cases reviewed 2020/2021**

Figure 3 clearly demonstrates that chromosomal, genetic and congenital abnormalities were the most common cause of death, followed by perinatal and neonatal events. When combined, these two categories equate to half of the child deaths in ORB. This is consistent across GM, in line with national trends and the same as previous years.

4. Socio-demographics of cases closed in 2010/2021

4.1. Gender

When comparing deaths across the local authorities by gender, males appear to be over-represented at 59% when compared to females 41%, as seen in table 9. This is consistent with GM findings and national trends.

Table 5: Number of cases closed by Gender in ORB				
Area	Female		Male	
	No	%	No	%
ORB	12	41%	17	59%

4.2. Ethnicity

In all three areas, White British is the predominant ethnicity, with 68% of the child population across ORB classified as white and 32% as BAME. Of note, Oldham BAME child population is 40% compared to 28% GM.

Table 6: Child Population Ethnicity across Oldham, Bury and Rochdale, using mid 2019 population estimates.					
Area	Total under 18 population	White		BAME	
		No	%	No	%
Bury	43289	34631	80%	8658	20%
Oldham	59592	35755	60%	23837	40%
Rochdale	53299	36243	68%	17056	32%
ORB	156180	106629	68%	49551	32%

Source: Based on mid-2019 population estimates

In ORB, there is a higher rate of closed cases in the BAME population, suggesting that although numbers are small that BME child deaths are over-represented. Clearly there is a health inequality associated with ethnicity.

Table 7: Cases Closed by Ethnicity for Each Area						
Area	White			BAME		
	No	%	Rate/10,000	No	%	Rate/10,000
ORB	16	55%	1.50	13	45%	2.62

4.3. Age at death

Younger children have the highest risk of childhood mortality, and the highest risk of death is during the neonatal period[1]. Figure 5 demonstrates that as age increases the number of deaths falls. In ORB 41% of closed cases were in the neonatal period and 55% within the first year of life. This is consistent with GM and national trends.

---

[1] https://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2019/en/

Figure 4: Age Group of Closed Cases 2020/2021
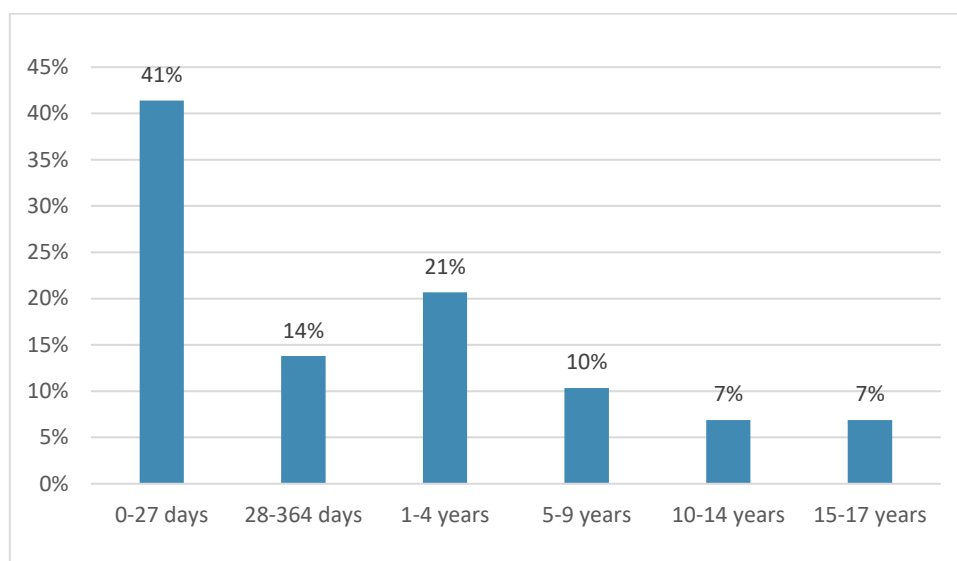
4.4. Low birth weight and Prematurity

Preterm delivery is defined as any birth before 37 weeks of pregnancy and can be subdivided depending upon gestational age[2]:

- Extremely preterm -less than 28 weeks
- Very preterm -28-32 weeks
- Moderate to late preterm -32-37 weeks.

Preterm delivery and the associated complications are the leading cause of infant mortality[5]. The earlier the gestation at which a baby is born, the higher the risk of infant death[3]. Preterm delivery is associated with risk factors such as poverty and maternal smoking[4]. 88% of all deaths in children under 1 year were born prematurely across ORB.

Low birth weight, defined as under 2500 grams, is often caused by a premature birth, and whilst some risk factors are unavoidable others include maternal smoking, drug and alcohol use, poor pregnancy health and nutrition, pregnancy related complications and mothers young age[5]. Birth weight for closed cases under the age of 1 have been compared across the localities in table 14. Across ORB 75% of closed cases under 1 year were associated with a low birth weight.

Table 8: Birth weight of closed cases for babies under 1 year only							
Area	<2500g Low Birth Weight		>2500g Healthy Birth weight		Not recorded		Total
ORB	12	75%	<10		<5		16

---

[2] https://www.who.int/news-room/fact-sheets/detail/preterm-birth

[3] https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/childhoodinfantandperinatalmortalityinenglandandwales/2018#:~:text=1.-,Main%20points,of%203.6%20recorded%20in%202014

[4] https://www.rcpch.ac.uk/sites/default/files/2018-10/child_health_in_2030_in_england_-report_2018-10.pdf

[5] https://www.nuffieldtrust.org.uk/resource/low-birth-weight

5. Modifiable and other risk factors

5.1. Factors Identified that may have contributed to vulnerability, ill health or death

Form C, the child death review analysis form, is used by CDOP. All available information, gathered from different agencies, is reviewed in order to develop an understanding of the circumstances of the child's death and whether there were any associated modifiable factors. Through this process lessons can be learnt and shared, and local level action can be taken in order to reduce the risk of child death.

As part of the review, any factors that may have contributed to the child's death are identified.

These are split into four domains:

- Domain A: Factors Intrinsic to the Child
- Domain B: Factors in Social Environment including Family and Parenting Capacity
- Domain C: Factors in the Physical Environment
- Domain D: Factors in Service Provision

The level of influence is then determined, given one of the following:

- 0: Information not available
- 1: No factors identified, or factors identified but are unlikely to have contributed to the death
- 2: Factors identified that may have contributed to vulnerability, ill health or death

Factors identified in closed cases in ORB that may have contributed to vulnerability, ill health or death

Domain A: Factors Intrinsic to the Child
• Acute Sudden onset illness
• Other Chronic long- term illness (excluding Asthma, epilepsy and diabetes)
• Learning disability
• Sensory Impairment
• Other disability or impairment
Domain B: Factors in Social Environment including family and parenting Capacity
• Emotional/behavioural/mental/physical health condition in a parent or carer
• Poor supervision
• Child abuse and/or domestic abuse
Domain C: Factors in the Physical Environment
• Overcrowded home conditions
Domain D: Factors in Service Provision
• Prior medical Intervention
• Access to services including translation services
• Late booking of pregnancy

5.2. Modifiable Factors

Some factors associated with a child's death are modifiable, these are important as targeted interventions can be used to reduce risk where factors reoccur. A set standard of modifiable factors has been agreed by the GM CDOP Network to ensure consistency when categorising the preventability of child deaths. This is to reduce the subjectivity surrounding these matters.

The agreed definition of Modifiable Factors Identified is:

'The panel have identified one or more factors, in any domain, which may have contributed to the death of the child and which, by means of locally or nationally achievable interventions, could be modified to reduce the risk of future child deaths'

The Modifiable Factors are categorised and defined as:

Modifiable Factors in Perinatal / Neonatal Deaths
• Maternal smoking in pregnancy • Maternal Obesity (BMI 30 +) • Mothers who are Underweight (BMI < 18.5) • Unbooked pregnancies • Concealed pregnancies • Necrotizing Enterocolitis (NEC) where the baby was not fed expressed breast milk
Modifiable Factors in Sudden Unexpected, Unexplained Deaths
• Unsafe sleeping arrangements (co-sleeping bed/sofa) • Parental smoking
Modifiable Factors in Consanguineous Related Deaths
• Where there has been an older sibling who has died or is affected by the same genetic autosomal recessive disorder

Across ORB 48% of cases had modifiable factors identified. All cases across ORB had sufficient information to identify modifiable factors.

Modifiable Risk Factors identified by the ORB CDOP in the closed cases of 2020/21 included:

- Maternal Smoking in Pregnancy
- Parental Smoking
- Unsafe Sleeping arrangements
- Where there has been an older sibling who has dies or is affected by the same genetic autosomal recessive disorder

5.3. Other Identified Risk Factors

Other issues raised within the closed cases across ORB, which are not defined within the GM CDOP Network:

- Modifiable factors in sudden, unexpected, unexplained deaths such as drug and alcohol use and housing

- Factors in service provision including translation services, access to health care during COVID, and risks relating to domestic abuse and violence.

6. Recommendations

The following recommendations are based upon the findings of this report.

Recommendations

- Local areas should continue to work to reduce the key risk factors for deaths in children in ORB. These include:
    - Parental smoking including maternal smoking in pregnancy
    - Unsafe sleeping
    - Genetic conditions
    - Other risk factors for sudden, unexpected, and unexplained deaths including drug and alcohol use, poor housing and low rates of breastfeeding,
    - Barriers to healthcare access including translation services
- ORB CDOP to work with the other three GM CDOPs to identify and address rarer risk factors or causes of death